

2017 National Geospatial Data Asset (NGDA) Dataset Report

International Boundary United States Mexico Minute 315

Introduction:

This report aggregates information related to the National Geospatial Data Asset (NGDA) in the title above. In order to be designated an NGDA, the dataset must meet the criteria outlined in the Office of Management and Budget [OMB Circular A-16 Supplemental Guidance](#). The guidance also directs Federal agencies to implement and use a portfolio management approach to ensure NGDA Datasets are managed by officially designated agencies, on behalf of all users, as national capital assets. As part of this process, the NGDA Dataset Managers regularly assess the maturity of their NGDA Datasets based on the [geospatial data lifecycle](#) and agency business requirements. All NGDA Datasets are assessed uniformly using a set of benchmark questions and a maturity index. This report includes results from the 2017 Lifecycle Maturity Assessment (LMA) which will be used to inform NGDA Dataset Managers about priorities and will be aggregated into a Theme Summary Report for NGDA Theme Leads.

NGDA Dataset Details:

Official Title: International Boundary United States Mexico Minute 315

Metadata Record Title*: [International Boundary United States Mexico Minute 315](#)

Theme: Governmental Units, and Administrative and Statistical Boundaries

Dataset Lead Agency: U.S. Department of State, International Boundary and Water Commission

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** If the metadata has been updated and re-harvested after publication of this report, the link may no longer be valid. The NGDA Dataset may be searched for manually in Data.gov or GeoPlatform.gov using the metadata record title.*

2017 Lifecycle Maturity Assessment (LMA)

Reporting on the status of each NGDA Dataset is an OMB requirement, and assessing the developmental maturity of the NGDA provides managers the ability to support NGDA Datasets in a more universal and transparent manner. The LMA is based on the OMB Circular A-16 seven stages of the [geospatial data lifecycle](#) with associated benchmark activities for each stage. Each benchmark has a range of activities, from no activity to significant activity, which provide the interpretation of maturity for that benchmark. The cumulative level of activity determines the maturity of the each NGDA Dataset and is based on a [Maturity Matrix](#) and [How to Calculate Maturity](#). Additional information can be found at the GeoPlatform.gov [2017 Lifecycle Maturity Assessment \(LMA\)](#) community web page.

2017 LMA Questions and Responses

The 2017 LMA includes a series of questions about the benchmark activities within each lifecycle stage, an explanation of specific actions that might be used to accomplish the benchmark activity (clarifying statements), and a series of status metrics in the form of response options. The NGDA Dataset Manager selects the response option that most accurately describes the current maturity level for the NGDA they manage. The responses to all the questions, and their associated metrics, collectively determine the overall maturity of an individual NGDA. The 2017 LMA consists of 3 general questions and 20 maturity questions. An additional 12 questions justify response choices to the 20 maturity questions. The questions are organized across the seven stages of the [geospatial data lifecycle](#) or pertain to all lifecycle stages. The detailed 2017 LMA questions can be found in the [National Geospatial Dataset Asset 2017 Lifecycle Maturity Assessment](#) document.

General Questions for All Stages

0) Part 1: Is this dataset considered "active" or "static"?

Response: The dataset is considered active - the dataset is being actively updated and maintained and has active components in some or all of the 7 Lifecycle Stages (with the exception of the Archival Stage)

0) Part 2: For the 2017 LMA, please provide what time frame the assessment includes?

Response: For an NGDA that completed the baseline assessment, responses include dataset activities from 2015 to 2017

0) Part 3: Do you have a process to evaluate the dataset to determine if it continues to meet the criteria established for a National Geospatial Data Asset (NGDA)?

Response: Yes

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

Response: Funding is planned at agency level, supporting staff is assigned, but funding is not recurring, some lifecycle stages are supported

1.a) To justify your response to Question 1, what is the primary funding source for your NGDA?

Response: Federal agency - General lead agency budgetary funding for a specific program that supports this NGDA or the NGDA itself

1.b) To further justify your response to Question 1, do you have secondary source(s) of funding?

Response: Yes

1.b.a) What are the other source(s) of funding for your NGDA?

Other - The International Boundary and Water Commission is a binational agency that consists of two sections, the United States Section (USIBWC) and the Mexican Section (MxIBWC). This dataset gets updated when both sections of the Commission agree to initiate a boundary mapping project. Once both sections agree, funding and support staff are provided from within the agency. However, we do try to partner with other U.S. agencies for aerial imagery collection. This allows us to share cost and leverage the expertise of larger agencies that collect large amounts of aerial data on a regular basis. Previous boundary mapping efforts partnered with USDA.

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

Response: Under development

3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure the continuity of the dataset for all stages of the lifecycle, especially during staffing transition?

Response: Under development

STAGE 1 - Define/Plan

Characterization of data requirements based upon business-driven user needs.

4) Are business requirements defined and formalized?

Response: Under development

5) Are there processes in place to ensure partners and stakeholders are involved in requirements collection?

Response: Under development

5.a) To justify your response to Question 5, which external partners and stakeholders are involved in the requirements collection process?

Federal agency - Partners and stakeholders are participants from other federal agencies

Other - There is very little outside involvement for the actual delineation and updating of the International Boundary Line. We do partner with other agencies to obtain aerial imagery and help publish the final maps with the delineated boundary. The requirements for the line are based on Provisions within the 1970 Boundary Treaty with Mexico. We have partnered with INEGI (Mexico) and USGS (United States) to leverage their expertise at production mapping.

6) Is there a quality assurance process for the dataset?

Response: Under development

6.a) To justify your response to Question 6, what methods are used to develop and complete quality assurance assessments?

Other - Processes are currently under review by USIBWC and MxIBWC.

7) Has an assessment been done to evaluate the sensitivity, privacy, and confidentiality of this dataset?

Response: Fully implemented including recurring assessments

8) Are defined data standards used in collecting, processing, and/or rendering the data?

Response: Developed, documented, and implementation started

8.a) To justify your response to Question 8, what types of data standards are used in collection, processing, and/or rendering the data?

FGDC-endorsed standards in use: ISO-19139

STAGE 2 - Inventory/Evaluate

The creation and publication of a detailed list of data assets and data gaps (both internal and external) as they relate to business-driven user need.

9) Is an assessment done to determine if data necessary to meet requirements already exists from other sources (either within or outside the agency) before collecting or acquiring new data?

Response: Under development (Please explain)

Justification: There are no external data from which we can use. The location of the International Boundary Line is the responsibility of the International Boundary and Water Commission, and the Commission performs its own surveys and maintenance of the International Boundary Monuments. We do reuse in-house data as appropriate to reduce unnecessary effort.

9.a) To justify your response to Question 9, what actions are performed to determine if data already exists from other sources?

Internal research and evaluation - The lead federal agency conducts research to identify whether other potential sources and datasets exist, including GeoPlatform.gov Marketplace research

STAGE 3 - Obtain

The collection, purchase, conversion, transformation, sharing, exchanging, or creation of geospatial data that were selected to meet the business needs is identified.

10) Is there a process for obtaining data for this dataset?

Response: Implementation progressing

10.a) To justify your response to Question 10, what actions are performed to obtain data?

Other - A general process is in place to obtain the necessary source data to delineate the International Boundary based on previous boundary mapping effort. The process has been evolving with each rendition of the boundary maps, and a proposed standardization is currently under review by USIBWC and MxIBWC.

11) Is the metadata in an FGDC-endorsed geospatial metadata standard, follows the NGDA Metadata Guidelines, and is published?

Response: Published and fully implemented NGDA Metadata Guidelines including recurring assessment of the metadata

12) Part 1: Is there a business process in place to determine the geographic coverage of the dataset and establish milestones to track progress towards completion?

Response: Fully implemented including recurring assessments

12) Part 2: Based on the business requirements, what is the estimated completeness of the geographic coverage?

Response: Geographic coverage is fully complete (100%) based on business requirements

12.a) To justify your response to Question 12 Part 2, what is the geographic coverage of the dataset as defined by the business requirements?

Response: Other

Response: The entire United States/Mexico International Boundary is covered, including Maritime Boundaries, the Land Boundary, the Colorado River Boundary, and the Rio Grande Boundary as defined in the 1970 Boundary Treaty.

STAGE 4 - Access

Making data produced known and retrievable to the community through documentation and discovery mechanisms so the users can meet their business requirements.

13) Do you provide users access to the data in a digital machine-readable format?

Response: Fully implemented including recurring assessments

13.a) To justify your response to Question 13, what types of digital machine-readable formatted web services or data download services are available for this dataset?

ArcGIS Map Server

WMS - Web Map Service

SHP - Shapefile

STAGE 5 - Maintain

The ongoing processes and procedures to ensure that the data meet business requirements.

14) Is there a maintenance process in place for this dataset?

Response: Under development

15) Is there a quality assurance/quality control (QA/QC) process as part of this dataset's maintenance?

Response: Under development

STAGE 6 - Use/Evaluate

The ongoing assessment, validation, and potential enhancement of data to meet user needs and business requirements.

16) Is there a process to determine if the dataset meets user needs?

Response: No process exists (Please explain)

Justification: The needs of the dataset are defined in the 1970 Boundary Treaty.

17) Is there a process to provide users information on how to evaluate and properly use the dataset?

Response: Fully implemented including recurring assessments

18) Do the business processes and management practices include an assessment of changing technology?

Response: Under development

STAGE 7 - Archive

Facilitate the selection/appraisal retention, storage, preservation and accessibility of geospatial content with long-term value (or the disposition of material as appropriate) and establish mechanisms for the coordinated development of stewardship tools and services across all impacted Federal agencies.

19) Is there an archiving appraisal process for the dataset?

Response: Appraisal process under development

19.a) To justify your response to Question 19, where is digital data being archived as determined by your appraisal process outcome?

Archived at National Archives and Records Administration (NARA)

19.b) To justify your response to Question 19, where is printed data being archived as determined by your appraisal process outcome?

Archived at National Archives and Records Administration (NARA)

LMA Submission and Reviewer Information

LMA Submission:

Status: Complete
Date: 8/8/2017

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LMA Maturity Overview

Each of the 20 maturity question responses was assigned a maturity level based on a [Maturity Matrix](#). The maximum level of maturity (Optimized; Established) is level (5) and the least level of maturity (No Activity) is level (0). The question response maturity was then averaged across each lifecycle stage to determine the stage maturity as described in [How to Calculate Maturity](#). The table below shows the numerical maturity levels with their corresponding descriptions and characteristics.

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Level = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined for both the primary owner and secondary users on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Level = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as an authoritative resource by the primary owner and secondary users. Future needs are being identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Level = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Level = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Level = 1	Dataset in initial planning or limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, Partners/stakeholders involvement is being defined and developed to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Level = 0	Dataset not developed or meets project/local business needs of the primary owner. Secondary, additional uses, or partners/stakeholders were not considered. Dataset is not recognized as authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

Table 1: 2017 Maturity Matrix.

2017 NGDA Dataset Maturity Results

Based on the maturity question responses, an overall maturity level was calculated for this NGDA, along with maturity calculations for the general questions for all stages and each discrete lifecycle stage as shown in Table 2 below.

Maturity Categories	Maturity Level
Overall NGDA Maturity	2 - Transition; Transformation
General Questions for All Stages	1 - Planned; Initial Development
Stage 1: Plan/Define	2 - Transition; Transformation
Stage 2: Inventory/Evaluate	1 - Planned; Initial Development
Stage 3: Obtain	4 - Mature; Consistent
Stage 4: Access	5 - Optimized; Established
Stage 5: Maintain	1 - Planned; Initial Development
Stage 6: Use/Evaluate	2 - Transition; Transformation
Stage 7: Archive	1 - Planned; Initial Development

Table 2: 2017 Maturity Results.

LMA Process Changes Between 2015 and 2017

In 2015, a baseline assessment of National Geospatial Data Assets (NGDA) was performed for each of the NGDA Datasets in the federal geospatial portfolio. Information related to the 2015 baseline LMA can be found at [2015 NGDA Lifecycle Maturity Assessment](#), which also includes a link to the 2015 Reports. A follow up analysis of the 2015 LMA baseline process and its results identified ways to improve the LMA workflow, increase efficiency as well as decrease reporting burden. Several recommendations were identified and implemented in 2017, which included improvements to normalize the responses in 2017. A secondary effect of improvements to normalization is that results from 2017 and 2015 are not directly comparable. These changes, and their impacts, are detailed in the webpage: [Temporal Changes in Lifecycle Maturity Assessment \(LMA\) Maturity and Results Comparisons](#).